

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/GB2004/002329

International filing date (day/month/year)
01.06.2004

Priority date (day/month/year)
31.05.2003

International Patent Classification (IPC) or both national classification and IPC
E21B43/12, E21B34/04, E21B34/02, E21B33/06

Applicant
DES ENHANCED RECOVERY LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 53-130

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the whole application or for said claims Nos. 53-130

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☒ See separate sheet for further details

**WRITTEN OPINION OF THE
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Box No. V Reasoned statement under Rule 43*b/s*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2,5-14,17-30,37-52
	No: Claims	1,3,4,15,16,31-36
Inventive step (IS)	Yes: Claims	2,5-9,25-30
	No: Claims	10-14,17-24,31-36,37-52
Industrial applicability (IA)	Yes: Claims	1-52
	No: Claims	

2. Citations and explanations

see separate sheet

III Non-establishment of Opinion

The present application contains 130 claims, of which 19 are independent. There is no clear distinction between the independent claims because of overlapping scope. There are so many claims, and they are drafted in such a way that the claims as a whole are not in compliance with the provisions of clarity and conciseness (Article 6 PCT), as it is particularly burdensome for a skilled person to establish the subject-matter for which protection is sought. The non-compliance with the substantive provisions is to such an extent that a meaningful search of the whole claimed subject-matter could not be carried out (Article 17(2) PCT and PCT Guidelines 9.30).

However, in order that the applicant gains a reasonable idea of the background art available, the subject-matter of claims 1 to 52 (relating to two apparatus and one method claim) has been searched, and according to the provisions of the PCT, these searched claims will be the subject of a detailed examination.

V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

V-1 Claims 1 to 14

The document **D1: US-A-4 874 008** discloses (see in particular figures 2 and 3 and columns 2 and 3) a diverter assembly (62) [for a manifold of a an oil or gas well] comprising:

a housing (42) having an internal passage (58,60), whereby the diverter assembly is adapted to connect to a branch of a manifold (48,50).

Therefore the subject-matter of **claim 1** is not new in the sense of Article 33(2) PCT.

Although **D1** as well as **D2: WO 02/38912** and **D3: US-A-3 593 808** disclose diverter systems that can be attached to the main production bore of the manifold, there is no hint in any of these documents that the diverter is adapted to be located in a wing branch bore. Therefore the subject-matter of **claim 2** is new and inventive with respect to the corresponding requirements of the PCT.

However, as the subject-matter of **claims 3 and 4** is disclosed in **D1**, said claims are also not new.

Although **D2** discloses the use of an insert in the main production bore of a well, none of the available prior art appears to disclose the subject-matter of **claims 5 to 9** whereby an axial insert (for a wing branch bore) is provided and therefore said claims meet the requirements of the PCT with respect to novelty and inventive step.

D2 discloses the subject-matter of **claims 10 to 14** and said claims do not meet the requirements of the PCT with respect to inventive step.

V-2 Claims 15 to 30

D1 is also considered to be the closest prior art to the subject-matter of **claim 15** (see the argument given above for claim 1) and therefore said claim is not new.

The diverter system in **D1** also discloses the subject-matter of **claim 16**, and in combination with **D2**, the subject-matter of **claims 17 to 24**. Therefore said claims are not new and/or inventive. However, the subject-matter of **claims 25 to 30** is not hinted at in any of the documents of the prior art and therefore the subject-matter of said claims meets the requirements of the PCT with respect to novelty and inventive step.

V-3 Claims 31 to 52

D1 is also considered the closest prior art to the subject-matter of method **claim 31**, and although said document discloses a method of diverting fluids whereby a diverter assembly is connected to a branch of a manifold, it is unclear, in the light of the preceding apparatus claims whether this is a manifold branch as shown by the manifold assembly of **D1**, figure 2 (valve modules 12) or the wing branch bore of claim 2 of the current application. It is possible to see from Figure 2 of **D1** that the diverter assembly comprises a housing (42) having an internal passage (58,60), whereby the fluids are diverted through the housing, but not whereby the diverter assembly is adapted to be located within a bore in a wing branch. This lack of clarity notwithstanding, and assuming the former interpretation of the claim, the subject-matter of **claim 31** is therefore not new and does not meet the corresponding requirements of the PCT with respect to novelty.

**WRITTEN OPINION OF THE
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AUTHORITY (SEPARATE SHEET)**

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The subject-matter of **claims 32 to 36** is disclosed by **D1** and said claims also do not meet the requirements of the PCT with respect to novelty.

In addition, the subject-matter of **claims 37 to 52** is anticipated entirely by the disclosure made in **D2**.



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 02 4001

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
D,P, X	WO 00/70185 A (ENHANCED RECOVERY LTD DES ;DONALD IAN (GB); STEELE JAMES (GB)) 23 November 2000 (2000-11-23) * page 5, lines 13-17 * * page 11, lines 2-18 *	1-4	INV. E21B33/035 E21B34/04 E21B33/076
A	WO 98/15712 A (BAKER HUGHES INC [US]) 16 April 1998 (1998-04-16) * figure 4a *	1-4	
A	GB 2 319 795 A (VETCO GRAY INC ABB) 3 June 1998 (1998-06-03) * page 5, line 4 - line 6 * * page 7, line 15 - page 8, line 4; figures 1,2 *	1	
P,A	GB 2 361 726 A (FMC CORP) 31 October 2001 (2001-10-31) * page 4, line 29 - page 5, line 4 *	1	
A	EP 0 572 732 A (COOPER IND INC) 8 December 1993 (1993-12-08) * column 8, line 38 - line 42 * * column 9, line 18 - line 32; figures 9,10 *	1	TECHNICAL FIELDS SEARCHED (IPC) E21B
A	US 5 535 826 A (BROWN STUART C ET AL) 16 July 1996 (1996-07-16) * column 3, line 46 - line 57 *	1	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 16 April 2007	Examiner GARRIDO GARCIA, M
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.92 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 06 02 4001

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

16-04-2007

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0070185	A	23-11-2000	
		AT 306607 T	15-10-2005
		AT 347646 T	15-12-2006
		AU 776303 B2	02-09-2004
		AU 4769400 A	05-12-2000
		BR 0010584 A	19-02-2002
		CA 2373164 A1	23-11-2000
		DE 60023131 T2	22-06-2006
		DK 1179116 T3	27-02-2006
		EP 1179116 A1	13-02-2002
		ES 2250134 T3	16-04-2006
		NO 20015431 A	06-11-2001
		US 6637514 B1	28-10-2003
WO 9815712	A	16-04-1998	
		AU 4819797 A	05-05-1998
GB 2319795	A	03-06-1998	NONE
GB 2361726	A	31-10-2001	
		AT 278098 T	15-10-2004
		AU 4858701 A	07-11-2001
		DE 60106004 D1	04-11-2004
		EP 1276956 A1	22-01-2003
		WO 0181711 A1	01-11-2001
		NO 20025180 A	23-12-2002
EP 0572732	A	08-12-1993	
		AU 664634 B2	23-11-1995
		AU 4403193 A	30-12-1993
		CA 2116873 A1	09-12-1993
		DE 69226630 D1	17-09-1998
		DE 69226630 T2	24-12-1998
		EP 0719905 A1	03-07-1996
		MX 9303273 A1	31-01-1994
		WO 9324730 A1	09-12-1993
		US 6039119 A	21-03-2000
US 5535826	A	16-07-1996	
		GB 2267920 A	22-12-1993
		NO 932220 A	20-12-1993

EPO FORM P0458

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82